

CLAIMS

1. A direct current relay comprising:

a plurality of contact pairs, and a plurality of magnets (5), wherein

5 each of said plurality of contact pairs includes contacts (21, 22, 23, 31) having contact regions (21a, 22a, 23a, 31a), said contacts configured to allow opening and closure with respect to each other,

said plurality of contact pairs are arranged such that said plurality of magnets (5) are aligned on one straight line, and said contact pair is located between said magnets
10 (5) on a line identical to said straight line,

each of said plurality of magnets (5) is provided so as to distort an arc generated between said contacts (21, 22, 23, 31) on an occasion of relay cutoff in a direction crossing said straight line.

15 2. The direct current relay according to claim 1, wherein a contact area of said contact region (21a, 22a, 23a, 31a) has a shape such that a length of the contact area in a direction of said straight line is shorter than a length in a direction orthogonal to said straight line.

20 3. The direct current relay according to claim 1, wherein said contact pairs are arranged respectively so that they can be connected in series.

25 4. The direct current relay according to claim 3, wherein said contact includes an input contact (21), an output contact (22), at least one intermediate contact (23) disposed between said input contact (21) and said output contact (22), and having two contact regions (23a), and a plurality of linking contacts (31) connecting in series said input contact (21), said intermediate contact (23) and said output contact (22) sequentially in a conducting state, said input contact (21), said output contact (22) and

said intermediate contact (23) being disposed at one side of a switching direction of said contact, and said linking contact being disposed at the other side of the switching direction of said contact.

5 5. The direct current relay according to claim 1, wherein said contact pairs are arranged respectively so that they can be connected in parallel.

10 6. The direct current relay according to claim 1, wherein said contact region (21a, 22a, 23a, 31a) is formed of Ag alloy of a chemical composition including 1-9 mass % of Sn and 1-9 mass % of In, said contact region including a first layer at a surface region and a second layer at an inner region, said first layer having a micro Vickers hardness of at least 190, and said second layer having a micro Vickers hardness of not more than 130, and said first layer has a thickness in a range of 10-360 μ m.